

PRESENTATION FRETWORK DESIGN WITH THIS NUMBER.

# Hobbies

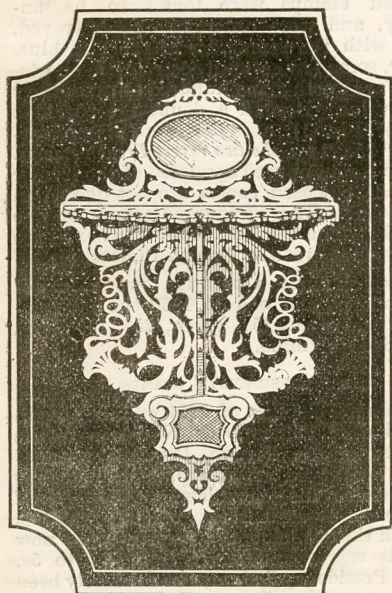
• A Weekly Journal •

For Amateurs of Both Sexes.

No. 22. VOL. I.

MARCH 14, 1896.

ONE PENNY.



DESIGN No. 22, PIPE RACK.

Wood Carving.  
Stamps Week by Week.  
Bee-Keeping  
Photography for Amateurs.  
The Magic Lantern.  
Pigeons and Poultry.  
How to Ride a Bicycle.  
China Painting.  
Weekly Presentation Design.  
Notes on Sport.  
Prize Competitions.  
Correspondence, Etc.





*A Philatelic Causerie by* PERCY C. BISHOP,

*Joint Editor of the "STAMP COLLECTORS' FORTNIGHTLY;" Ex-Editor of "THE PHILATELIC JOURNAL" and "PHILATELIC REVIEW OF REVIEWS;" General Secretary of the LONDON PHILATELIC CLUB.*

## A BRIEF STUDY OF FRENCH STAMPS.

THE advent of an entirely new French issue presents a good opportunity for a glance backward at the Philatelic history of our nearest neighbour. It was not until 1848 that France awoke to the advantages of the postal system introduced eight years before by Rowland Hill. On the first day of 1849 the first French stamps appeared. They were two in number, and of the values of 20 centimes and 1 franc. This higher value came out in a number of different shades of red, ranging from vermilion to deep carmine. But as the French postal authorities contemplated the production of a 40 centimes stamp of an orange-red colour, all the 1 franc stamps of the lighter shades were called in before they had been in issue a year. The natural result is that the 1 franc vermilion is one of the very scarcest of French stamps, as will be seen from the prices set upon it by the



leading cataloguers:—

			Unused.	Used.
Gibbons	..	..	£12	£8
Bright	..	..	£10	£8
Scott	..	..	£15	£8
Senf	..	..	£10	£7 10s.

The mistake is very often made of describing this scarce 1 franc stamp as an error. It is no error at all, but a stamp issued with all the deliberation of an official act. The colour was no error at all, for at the time the 1 franc stamp was issued the 40 centimes orange-red was not contemplated at all. The same mistake is made in the case of the so-called 20c. blue error, which I contend is no error at all, despite its persistent classification as such by our most eminent cataloguers.

The 20c. stamp was not changed in colour from black to blue by *mistake*, but deliberately, by reason of the fact that the black stamp was found to lend itself easily to fraud; how then can the 20c. blue be classed as an error?

True, the authorities discovered, immediately they had printed a supply of the 20c. in the blue colour, that they had made a great error of judgment; for about this time it became necessary to modify the existing postal tariff, and a stamp of the value of 25 centimes became an urgent need of the moment. The dies were at once put in hand, but fearing that the printers would not be able to supply the stamps by the required date, the authorities ordered the entire stock of the 20c. blue—none of which had been issued to the public—to be surcharged 25c. in bold red figures. However, the printer was punctual—as printers sometimes are—and the surcharged stamps were found to be unnecessary, and were ordered to be destroyed, together with the remainder of the 20c. blue. However, some few escaped destruction, and today they are worth many hundred of times their intrinsic value. Beyond a doubt the 20c. blue (design of Fig. 1), and the same stamp surcharged "25c.," are the two rarest French stamps. The price for an unused specimen of the former is about £5, but used copies are not quoted in any catalogue. The surcharged stamp no one can supply. The very few copies that exist are in the hands of wealthy French Philatelists.

France soon found a need for lower values of stamps, and at the end of 1850 the set comprised—10c. brown, 15c. green, 25c. blue, and 1 franc deep carmine.

### THE "PRESIDENCY" STAMPS.

The political changes of 1851 culminating in the election of Prince Louis Napoleon to the Presidency of the French Republic brought forth a new type of stamp, known among Philatelists as the "Presidency" issue. Of this issue there were but two varieties, the 10c. bistre and the 25c. blue, the former being now somewhat scarce and worth from 3s. to 5s.. These "Presidency" stamps had scarcely been in issue a year when they gave place to the

### STAMPS OF THE "EMPIRE,"

on the elevation of Napoleon to an Emperor's.



throne. The only alteration made in the stamps, however, was the substitution of "EMPIRE" for "REPUB." in the top frame. The "Empire" issues are not remarkable for



any great rarities, nor do they present any great difficulties, from a Philatelic point of view. So I shall pass them by, and conclude this "Brief Study of French Stamps" in next week's *Hobbies*.

But before I close let me entreat my thousands of readers not to fall into the common error of supposing that their common 20c. blue stamps of the issue of 1870 are specimens of the rare 20c. blue of which I have spoken in this article. Next week I shall be able to explain the differences between the "diamonds" and the "paste."

—:0:—

#### THE NEW CATALOGUE.

Messrs. Bright and Son, of Bournemouth, deserve well of all Philatelists for their enterprise in producing what is undoubtedly the best "Descriptive Catalogue of the World's Postage Stamps"—at the price—that has ever been produced in this country. How Messrs. Bright can supply this well-printed, well designed, and carefully compiled book at 1s. 9d., post free, is one of the things that is difficult to understand. The prices in Messrs. Bright's Catalogue appear to me to fairly mirror the present condition of the Philatelic market; but this, of course, is a subject upon which we all agree to differ. A stamp that is worth £1 to A is worth 25s. to B, and perhaps only 15s. to C, and so on. The question of exact market value is one that depends upon so many varied considerations. Still I feel sure that Messrs. Bright have done their best to apportion to each stamp its true market value. The illustrations to the new catalogue, being photo-process blocks, are necessarily faithful pictures of the stamps represented, but the system has not proved so successful as one could wish. A greater practical knowledge of the photographing of colours would perhaps have stood Messrs. Bright in good stead in this respect.

—:0:—

#### NEW ISSUES OF STAMPS.

\*. Items from this department will be gratefully received from any Philatelic readers who happen to receive early information of new issues, or of impending changes in the postal arrangements of any country.

CUBA.—I think I have already stated that the Cuban stamps have undergone a change of colour. The colours and values are now: ½m. de peso, 1m., 2m., 3m., 4m., and 8m., all blue green; 1c., lilac brown; 2c., claret; 2½c., rose; 5c., slate blue; 10c., emerald green; and 20c., violet.

FERNANDO Po also shows a change of colour in its 10c. stamp, which is now printed in a claret shade.

MOROCCO.—The full list of the stamps recently chronicled and illustrated in *Hobbies* is as follows: 5c. violet, 10c. rose, 20c. yellow, 25c. blue, 50c. sepia, 1 peseta brown, 2p. grey, and 5p. green. I still advise readers to be wary of investing in these labels, which now appear to be used only for some private carrier service between Tangiers and Arzila.

(To be continued.)

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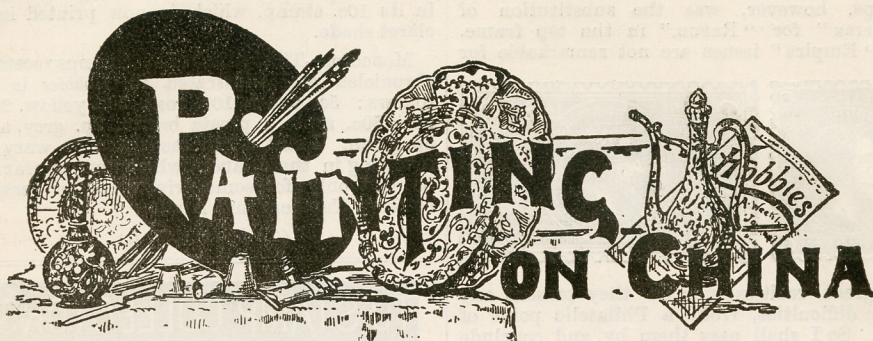
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## CHAP. II.

## MEDIUMS AND COLOURS.

**I**N ceramic painting, next to a knowledge of the variable nature of the colours—a variability which depends as much perhaps upon their manipulation and the quality of the object to be decorated as on their individual characteristics,—a thorough acquaintance with the uses and nature of the mediums to be employed is most essential.

Of these, spirits of turpentine and fat oil are the most important as being the most necessary, but rectified spirits of tar, spirits of lavender or oil of cloves are all useful, either of the two latter being employed in staying the drying powers of the paints which, when mixed with spirits of turpentine or fat oil, are apt to dry too rapidly for the student who has to pause occasionally and think over his work. For the water-colour Painting on China mentioned in the next chapter, water, gum, or china medium is only required. Spirits of turpentine are too well-known to need description, but “fat oil” may slightly puzzle the uninitiated. It is, however, only spirits of turpentine subjected to an evaporative process by which it is rendered what is technically known as “fat.” To make this pour a small quantity of turpentine into a clean saucer and expose it to the light for a short time. A little more of the spirit may be added each day until the desired quantity is procured. It should be allowed to remain exposed until the liquid begins to thicken and become “fat” or syrupy. Only a little turpentine should be put into the saucer at one time, as a large quantity will only retard the process of evaporation. The oil must be kept free from dust during its manufacture, and when sufficient is made, poured into a small bottle and corked. Spirits of tar may be treated in the same manner, the “fatted” tar being thinned when necessary with the spirit, as the “fat oil” is diluted with turpentine.

In the next chapter the characteristics of the colours used in water-colour Painting on China will be dealt with.

Having now become acquainted with the principal articles necessary for beginning China

Painting, the student will be anxious to start decorating some simple object. Before doing this, however, he should attend to the following particulars as to the characteristics of the colours to be used.

In China Painting the colours most generally used are what are known as “French” colours, but those of English manufacture have many adherents, and of these last, perhaps, Messrs. Hancock’s moist water-colours are the best. These colours may now be obtained in pans, half-pans, and tubes and the excellence of their make and simplicity of their use are strong recommendations to the student who is apt to find the powerful odour of turpentine and other mediums necessary in working the powder or oil colour of French preparation a little disagreeable. These moist water-colours of Messrs. Hancock are similar in their nature and effect to the powder colours of the same maker previously so deservedly popular, but being mixed with water, they, of course, require no oils or mediums for their working—a little water or weak solution of gum as in ordinary water-colours being all that is necessary to make them adhere to the smooth surface of the china. In using these colours, however, there is one fact to be remembered. As the colours so prepared are not effected by the atmosphere as are the French oil colours or even the powders requiring mixture with oil mediums, any surface painted with them must be carefully dried at the fire after each wash, or the paint will remain damp and unfit for future work. The student must be careful, therefore, in seeing that the paint laid on in the

first wash has had a few minutes application to the gentle heat of the fire before hazarding a second coat, as otherwise the under colour would wash up and spoil the effect of the entire work. A little of the china medium prepared to mix with these colours will sometimes be found of assistance in their laying.



Large  
Goose  
Sable  
Quill.



As was said at the beginning of this chapter, the French colours sold in tubes already prepared with oil or in powder, and needing the application of various mediums, find much popularity among large workers. Those manufactured by La Croix & Co., Paris, are perhaps the best of their kind, and directions for their use will be given afterwards. In this chapter and in the one immediately following, unless expressly stated to the contrary, Hancock's moist water colours will only be referred to.

Whichever set of colours the student may determine upon using for his work, that is, whether French or English, care must be taken to obtain them all of one maker. This is a difficulty which will beset the amateur when purchasing from the large colour shops obtaining their pigments from various manufacturers, and offer a strong temptation to the inexperienced to pur-



Crow Quill Sable.

chase paints of divers makes. It is a safe rule, at all events, until the artist has obtained enough experience to assist his judgment in the matter, for him to insist upon seeing the test tiles of the maker he is intending to patronise before purchasing. These test plates or slabs should have all the colours offered by the one manufacturer burned into the surface of the china and fused at the same heat. They all must, if well prepared, bear a glossy surface, the different hues after firing being an excellent guide for the artist's choice. If, however, the amateur be tempted to purchase some one colour of a different make, let him carefully try it upon his own test plate before using it in conjunction with his other colours, and so determine if it be hard or soft, that is, whether requiring greater or



Full Goose Fitch Hair.

less heat to make it fuse. Should the majority of the colours used in the one painting be fusible at a low heat and a paint of a hard nature be applied at the same time, the latter would naturally remain only half fused and show a dull and disappointing surface.

For the benefit of the amateur a list of Hancock's colours, to be obtained in either powder or as moist water-colours, has been compiled, and will be given next week. There are numerous other paints, but as the student advances in knowledge he will be able to add to the list with discrimination such pigments as he may require. He must take particular care, however, to make use of his test tile—an auxiliary not disdained by even experienced ceramic painters—before trusting the new pigments with those whose qualities are better known. In another chapter will be given a list of colours with a few remarks upon each. These will be specially arranged to assist the artist in the portraying of landscape upon porcelain, ordinary china or earthenware. Some hints upon this subject, necessarily limited through the absence of coloured copies, will afterwards follow.

(To be continued.)

## Photographic Hints for Amateurs.

### TO REMOVE VEILING FROM THE NEGATIVE.

Mix one part of alcohol to about two parts of oil of turpentine. Saturate a piece of flannel in this solution, and rub gently over that part of the negative which is "veiled" with a circular motion until the desired reduction in density is made.

### RED AND GREEN FOG.

This fog often shows itself in pyro-developed negatives. To get rid of it wash the plate for a minute or so, after development, in pure water, and leave it for from 20 to 40 secs. in a two per cent. solution of chloride of iron, and put it directly without washing from this into the pyro.

### EXPOSURE.

The duration of exposure is a matter of experience. Exposure tables will be of assistance, and the following rules may be of help:—On the amount of light transmitted by the lens used; on the size of the stop; on the sensitiveness of the plate; on the time of day and season; on the weather; on the brightness of the object to be taken.

### RAPID PLATES.

The chief cause of failure in obtaining proper results in the development of rapid plates lies in the want of proper consideration of their extreme sensitiveness, and the demand that they make for an intelligent and not a rule-of-thumb handling during development. Using quick plates for flash-light exposures it is well in developing to double the alhali and add a much larger proportion of water.

### "SOLIC" PAPER.

This paper has become such a very great favourite, and gives such good results, that we have thought readers of *Hobbies* might be glad to have in their own journal a developing solution that has been found to give admirable results. It is in three solutions: 1, Hydroquinone; 2, Metol; and 3, Soda. The following are the formulæ:—

#### No. 1.

Hydroquinone	..	..	$\frac{1}{2}$ oz.
Sulphite Soda	..	..	$\frac{1}{2}$ "
Pot. Bromide ..	..	..	1 "
Amm. Bromide	..	..	2 "
Water (up to)	..	..	64 "

#### No. 2.

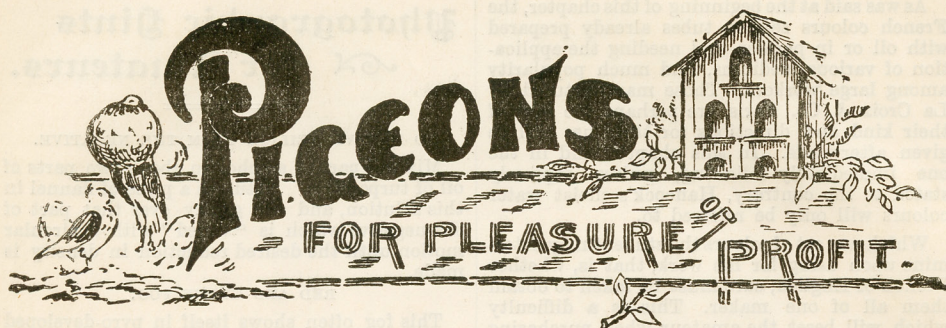
Metol ..	..	..	$\frac{1}{4}$ "
Sulphite Soda	..	..	$\frac{1}{4}$ "
Pot. Bromide ..	..	..	$\frac{1}{2}$ "
Amm. Bromide	..	..	1 "
Water (up to)	..	..	32 "

#### No. 3.

Caustic Soda ..	..	..	$\frac{1}{4}$ "
Water (up to)	..	..	16 "

To develop take of No. 1  $4\frac{1}{2}$  ozs., No. 2 1 oz., and No. 3 1 oz. The prints may be toned in either the combined or the sulpho cyanide baths.





## ANTWERPS.



HIS show bird is no doubt descended from the well-known flying birds used in Belgium, and like the Show Homer has risen in the Columbarian world from the ranks of ordinary flying Pigeons. It is a bird that finds favour in most circles, and is admired for its bold appearance.

Most of our readers interested in flying know that the great seat of Pigeon flying is Antwerp, and from this town its name is derived. Antwerps have lately been divided into short, medium, and long-faced birds, but our readers are advised to keep to the first, which is a general favourite and popular variety, in the show pen especially. We have several colours, such as silver, dun, red chequer, blue chequer, also blue and black.

Most Pigeon fanciers and breeders will now be mating up, and it is here *Hobbies* can step in with a little useful advice. Remember then, when pairing up your Antwerps, to have large and massive hens. This is a most important point, as the writer knows from experience that seldom have any good birds been bred from small hens. Again, bear in mind that with all varieties, and this one in particular, no two birds should ever be mated or paired together who are deficient in the same point. What the cock lacks should always be discernible in the female bird.

A few words here as to colours,—silver duns should invariably be paired to silver duns, but often breeders assist the colour by an occasional cross with a red chequer. Blue chequers must be mated with blues, or even blue chequers, red chequers being paired with blue chequers often with great advantage.

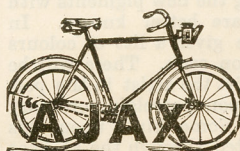
Antwerps are a very hardy and prolific variety, although they mature slowly, and often it will be found a bird does not mature until the second year, and it is therefore recommended that a bird of this age be secured if a start in the breeding line is desired.

The Antwerp is a large Pigeon, bold and dignified in appearance, and standing "well up." The principal feature of this variety is the

head, which to be near perfection should be very large and massive, and the skull wide, and when it is viewed from the side an unbroken curve (free from any irregularities) from the beak to the back of the skull, and the same from eye to eye, must be presented to its owner's gaze. The beak must not be long or thin, but very short, and also thick, with the mandibles fitting very closely, and both nearly as possible alike. The nearest approach to a typical beak is the bullfinch beak. Next, the beak wattle must be considered. This, to be perfect, must be nice and large, and it improves with age. It should be inclined forward on the beak, lying even, and well raised up. Providing the wattle is not ragged, it does not matter how large it is. The eyes should be deep red or orange in colour, and should be also very prominent from the head. The eye cere must be of a pale shade, and if not coarse or overhung will be found to add greatly to the appearance of the skull. With the neck many favour the semblance of gullet, but the writer thinks it destroys the grand appearance of the birds, although a long neck is essential. The shoulder is an important point with an Antwerp, and should be very broad, the wing butts prominent, and not fitting too tightly to the body, the breast full and broad, and the entire body of good length. They should be fairly long, and the feathers composing them broad and well knit together. All birds of this variety are capital feeders, and soon get accustomed to their owner.

Our next article will deal with the technical terms used in connection with pigeons; also on the diseases of pigeons and their remedies.

(To be continued.)



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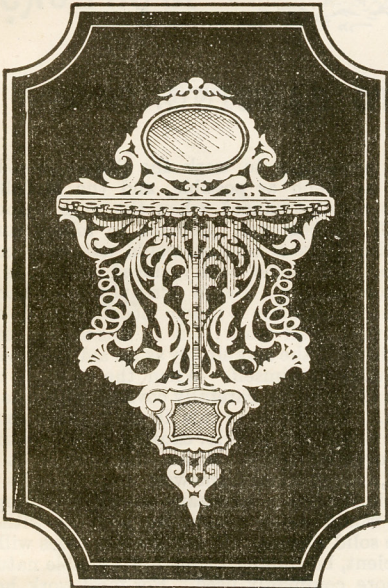
42, High Street, Camden Town, LONDON.



## Our Weekly Presentation Design.

No. 22. PIPE RACK.

**M**ANY have been the inquiries for a Pipe Rack Fretwork Design, and at last we are able to produce one. To make the article more ornamental and useful, provision has been made for a small oval Mirror, the Rack has been extended so as to serve as a Bracket Shelf, and a Match Box, with Striker, has been placed below.



Use three-sixteenths inch wood throughout, except for the small pieces of Match Box, which may be of one-eighth inch wood. The article is put together like an ordinary Bracket, the tenons being fitted in their respective holes. The simplest method of fixing the Mirror is to cut the hole exactly the size of the glass, and hold this in position by glueing a piece of stout paper or thin veneer wood over the back. The Match Box pieces explain themselves; the front may either be glued on and fixed with pin-points, or screwed with round-headed brass screws. The small bit of sandpaper should be cut carefully to size and glued firmly to the Box front, after which the Overlay border slip may be fixed on.

[Additional copies of this Design, price *Threepence* each, may be had from the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The Presentation Supplements will be given during the current week of publication only, and will not be supplied with back numbers of *Hobbies*. We have a stock of bevelled-edge oval Mirrors suitable for this Pipe Rack, which may be had from the Manager of our Supply Department, price 8d. each, *post free*.]

## Hints on Hobbies.

### CONTRACTION OF AIR.

To illustrate the contraction of air as it cools, we may use a clean oil flask, from which the rush covering has been stripped. (The flask that olive oil is usually sold in will answer the purpose.) Put the flask in the oven, or make it very hot by some other means. Then take it into some cool place, empty as it is, and stand it neck downwards in a saucer of coloured water. The water will rise in the neck of the flask in order to supply the place of the air as it contracts or shrinks in cooling.

### ALUM BASKETS.

Buy a small wire basket, or make one of iron wire or split willow. Then take some cotton or worsted and cover every portion of the basket. Make a strong solution of alum— $\frac{1}{2}$  lb. to a pint of water,—and boil it until all dissolved. Put this mixture into a deep pan and immerse the basket in the solution, taking care that it shall not come in contact with the pan. It should remain in the solution twenty-four hours. The alum will crystallise and the crystals will adhere to the cotton or worsted, and have a very pretty appearance. Sulphate of copper may be used instead of alum, and, as these crystals are a beautiful blue, some may prefer them.

### PRINCIPLES OF THE SAND-BLAST.

In a pamphlet upon "Playing at Science" we recently came across the following paragraph, which, to a certain extent, exemplifies the method of engraving glass now so generally used, and known as the Sand-blast. Take a cigar box and fit pieces of glass at either end, having previously affixed paper stencils on the glass ends. Then put into the box a quantity of emery powder, and an equal amount of lead shot. Closing the lid, shake the box for a few minutes, so that the weighted emery strikes the glass. On taking the glass out it will be found that the exposed portions have been frosted. That part of the glass covered with the paper will be protected, and under it the glass will, as a consequence, be quite clear.

### HOW TO MAKE A SAFETY MONEY BOX.

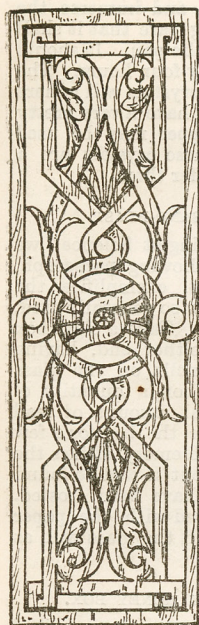
A correspondent in *Chums* recently described how to make a safety money box. This box is put together without nails or glue, and cannot be opened. He says:—Cut out six pieces of wood four inches long by two inches wide out of a bit of three-eighths of an inch thick. At thirteen-sixteenths of an inch from the end cut out a groove three-eighths of an inch wide and half-way through the wood. In one piece cut a slit big enough to put in a fair-sized coin. Then put them together by placing the sides of one into the grooves of another, until you get it all together in box form. Then with a sharp tap with a hammer knock the last piece of board on the side that is not in the groove. This will spring into its place and the box will be complete, and it will be impossible to open it without breaking one or other of the pieces which form the box.



# WOOD CARVING FOR AMATEURS



## CHAP. XIV.—MODELLING AND CASTING, *Conclusion.*



AS several allusions have incidentally been made to Modelling, a few hints as to the use of clay might be added before closing this short series of Wood Carving notes. It must be clearly understood, however, that this is not the place to enter into an elaborate description of the Modeller's Art, and the sole intention is merely to give the amateur a rough idea as to how he could use the clay as a means of assisting him in the operation of Carving in Wood.

Clay may be had from any pottery, or from cast dealers; it is supplied in a rough powdery state, with many large lumps. All must be thoroughly ground down and then mixed with water. The consistency should be a happy medium between stickiness and dryness;

it must not adhere to the fingers, nor must it be so hard that it will crack and crumble. It is necessary to keep the material in a cool place; it should be put in an earthenware or a metal jar, with a wet flannel over the top. The cover should also have an inside lining of moistened cloth, so that as much air as possible may be excluded from the clay. Modelling Tools are small pieces of boxwood or bone with various-shaped ends,—flat, round, curved, pointed, etc. They are very cheap and may be had from any colourman.

When the clay is taken out for use it should be well beaten and then rolled up into several large balls, care being taken that any stray pieces of stone are removed. A slate slab is very convenient for placing the clay on, but a strong board of wood will do.

In proceeding to work the fingers should be used as much as possible, and the Modelling Tools only introduced when the work becomes small. A beginner, prepared to follow out a definite course of lessons, would naturally commence with some boldly-shaped article, as an apple or an egg. Better examples could hardly be chosen, as there is much modelling to do and yet little detail work; but in this the amateur, who is using the clay simply as an aid to Carving, can judge for himself. When the work is laid aside it must be carefully covered with a damp cloth. The object in this is that otherwise the clay would dry quickly, causing it to contract and crumble away. When the work is at all large, a rough inner framework must be built up. This is absolutely necessary, as a heavy lump of clay would never retain its position without some solid support. Wood in some cases will be sufficient, but piping, owing to its pliable nature, is more commonly used. For most work, however, which the amateur is likely to attempt, no framing will be necessary.

### CASTING.

It often happens that the Wood Carver is desirous of securing an impression, either of a piece of his own work or of some other example which may strike his fancy. Squeezing Wax may usually be had from a colourman, or from oil stores, and costs about half-a-crown per pound. As it will be hard and inflexible, it must be worked with the hand till it bends freely without being at all sticky. When this is right take the wax and press it on the ornament of which a cast is wanted. The wax must be worked with the knuckles into every crevice, but if there be undercutting the pressure must be applied straight down, or the wax would not afterwards lift off. If the effect of undercutting were wanted for the cast the wax mould could be touched up after it had been removed from the wood. In lifting this off it is impossible to prevent the wax from bending somewhat, but if great care is taken no damage will follow, and the mould can then be bent back into form. A small rim should be made round the edge, so as to keep in the liquid when it is poured on.



The Plaster of Paris which is used must be of the very finest quality, or the cast will be rough and void of character. It must be kept in a tin case with the lid tightly fixed on so as to prevent the intrusion of any air. To prepare the liquid, place some water in a cup and pour on a little of the Plaster powder; beat up well with a teaspoon and see that no knots or lumps are formed; add more water and more Plaster of Paris till sufficient is made, and until the cream is in a moderately thick fluid state; then take a spoonful and gently pour it into the mould, blowing the liquid into every hole and corner; leave no air bubbles, as these produce small holes in the cast. The liquid must be poured on gradually, care being taken to see that it penetrates everywhere. If the Carving has had many sharp lines the Plaster of Paris must be somewhat thinner, but it must never be used in a watery state. If the cast is large a piece of canvas is usually placed on the top, before the liquid hardens, and then some more Plaster poured over it; this prevents breaking. The cast must be allowed to set thoroughly before any attempt is made to remove the wax. With small ornaments an hour or so will be sufficient, but with large work a much longer time should be allowed. When the wax is removed any little bits of Plaster which are sticking to it must be picked out. There will be few of them if the cast is thoroughly hardened before the squeezing material is lifted off.

It must not be supposed that this method is intended for producing ornamental castings; it is merely to give the amateur a direct copy from which he can work. When Wood Carvings are copied it is not always convenient to have the original lying before the worker, and no good copy can be made when he has constantly to leave the work for the purpose of examining the pattern. It is in this way that Squeezing Wax and Plaster of Paris become genuine friends of the Wood Carver.

These general notes on Modelling and Casting do not attempt to deal with the merits of the work, but they simply indicate the process. Modelling is an art which has even a wider scope than Carving, and it cannot be enlarged on here.\*

In a concluding word it may again be explained that, if the remarks in these chapters have only carried the worker up to a certain (and not very advanced) point, the object in view was to assist the amateur who is practising the art without any guidance from teachers, and no effort has been made to benefit those who may already be skilled and experienced Carvers.

Carving, it must be remembered, is not an Art which can be learned from books. Like Painting, or Music, it must be studied and practised. Theory, no doubt, is of some assistance, but it can never produce skilful work; that can only be secured after much care, patience, and perseverance. The amateur must at the outset make up his mind to go through all the necessary stages. Firstly, he must have thorough control over his tools; until these are mastered, no proper work can possibly be done. Afterwards some simple incising designs may be attempted, and as confidence and skill are gained some more advanced examples may be taken up. It should not be forgotten that pro-

gress must inevitably be slow, and beginners should not feel discouraged if their preliminary attempts are crude and unsatisfactory. Although we must leave the subject here to make room for other favourite Hobbies, some particular branches of Carving will be taken up again. Chip Carving is almost a Hobby in itself, and the various styles of Wood Carving, antique and modern, will in future numbers be fully described in illustrated articles.

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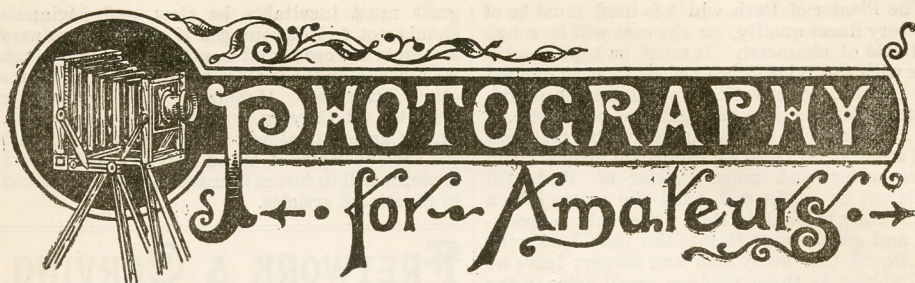
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\* A series of practical articles on Modelling in  
Clay is at present in preparation, and will in due  
time appear in *Hobbies*.





## NOTES OF THE WEEK.

**I**T may be news to some of the readers of *Hobbies* that Mr. Stevens, the proprietor of Stevens' Auction Rooms in King Street, Covent Garden, is an enthusiastic and most talented photographer. He has for many years made flowers and animals his special study. At the present time the Camera Club have an exhibition of his work—one of a long series of one-man "shows" which have assisted very materially to popularise the Club.

We notice that in connection with the Edinburgh Photographic Society a series of elementary lectures and demonstrations were given. The subjects for January were Printing—Silver and Platinum. Other subjects fixed upon are:—Copying and Enlarging, and Lantern Slide Making by Contact and Reduction. Such lectures are most useful, and should be more frequently handled by the executive of Photographic Societies.

In *Photographic Scraps* a correspondent says that in washing bromide prints the substitution of a piece of glass or opal for the enamelled board, recently recommended, will be found a great advantage. The paper should be fastened to the glass by means of small wooden clips.

In the same paper Mr. E. C. Middleton's method of stripping a negative by immersion is given. The negative is placed in a solution made up as follows:—

Water .. ..	150 parts.
Methylated Spirits .. ..	150 "
Glycerine .. ..	6 "
Hydrofluoric Acid .. ..	12 "

It is allowed to soak until the corners lift easily, and it can then be transferred to glass, thin celluloid, &c., coated with a plain solution of gelatine.

The President of the Royal Meteorological Society, Mr. Richard Inwards, is an expert in many things, and has made a hobby of Photography. His bent in that direction has always been to use it as a meteorological sketch-book. His Photographs of cloudland are unsurpassed, and he has made a study of lightning flashes by means of Photography. It is well known that artists have idealised the lightning flash, and made it something that no more resembles it than does the light from a tallow candle the electric arc. It is, however, interesting to note that Mr. Inwards has found Turner's representation of lightning to show great accuracy when placed side by side with a Photograph.

The advertising of certain "shadowgrams," "shadowgraphs," "electrographs," or whatever other name the examples of the new Photography may be called, recently prompted a wag who had received some of the Photographs to send a telegram to the publishers in this form:—"Photographs received very tame, send more sensational ones, such as interior of stomach, back bone, brains, liver, kidneys, heart, lungs, soul!" Such then are the requirements prompted by the "New Photography;" surely a little knowledge is a dangerous thing.

In a recent lecture upon Photography, the speaker, alluding to the importance of introducing suitable clouds into all pictures, said:—There were no blank spaces in nature. He also urged the necessity of cutting down or trimming prints into artistic shapes, and entered into the difficulties and advantages of combination printing, showing how it was possible to take a part of one picture and incorporate it with another, thereby producing a more harmonious whole.

Professor W. N. Burton, writing upon small cameras and hand cameras, concludes a capital article by saying—"Get a hand camera for  $4\frac{1}{4} \times 3\frac{1}{4}$  or for  $5 \times 4$  plates, that can be used on a tripod, that permits of focussing by a screen, and that will open (extend) so far that a lens of at least  $8\frac{1}{2}$  inches focus for the first mentioned and 10 inches for the second may be used."

In this very varying climate a sunshine recorder hardly seems to be an instrument that will be worn out by over-exertion. In the *British Journal Almanac* Mr. F. H. Glew thus describes a simple sunshine recorder:—Procure an empty quarter-plate cardboard box, and in the top of the lid cut a hole, about half an inch in diameter, close to the edge of one side; then paste a bit of stiff brown paper over the hole, and when dry prick a hole in the brown paper with a pin. To use the sunshine recorder, place a piece of paper in the bottom of the box, but sensitive side uppermost, and on this place a glass plate to keep the paper flat. Now put on the lid containing the pin-hole, and stand the whole thing flat on a window-ledge, the pin-hole side facing the south, and make a pencil mark all round the box, so that you always place it in the same position, and change the paper once a day, when a very clear record of every peep of sunshine will be found. Perhaps some of the readers of *Hobbies* will try this "recorder." We must own



to the fact that it would be difficult for us to record sunshine on the window-sill of our editorial sanctum, although we do occasionally see the sky!

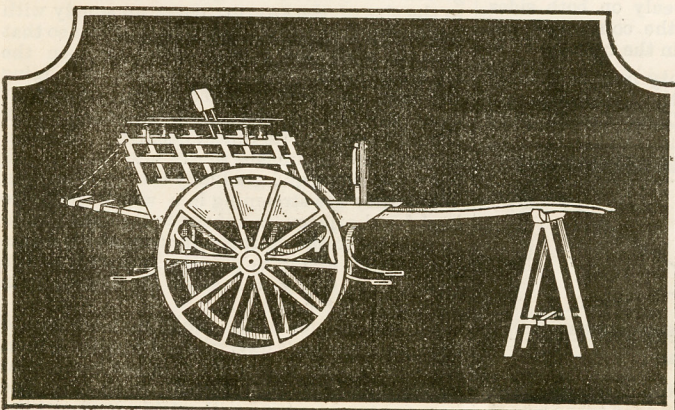
Opticians and others are rushing into the market with Crooke's tubes. One firm advertises these tubes at 25s., and complete apparatus, consisting of a six cell battery, Ruhmkorff induction coil (4 inch spark), and Crooke's tubes, all of the best workmanship, and guaranteed to give first-class negatives, for the modest sum of £23 5s. This is a considerable sum to pay for the pleasure of photographing "another fellow's bones." The lantern slides are in great demand, and quite a variety may be purchased at 2s. 6d. each.

In the *Amateur Photographer* Mr. W. Thomas has been writing upon a convenient developer, which consists of metol and hydroquinone, put up in a form known as a "one solution developer." After some experiments with this developer, as recommended by the maker, and following closely the printed instructions, Mr. Thomas essayed to use it upon a method of his own as follows:—When developing a number, say a dozen or more, exposed plates, Mr. Thomas, who is a quarter-plate worker, we believe, proceeds to place on the table three developing dishes, and makes up three solutions thus:—Into No. 1 dish is placed 6 ounces of water, to which is added 3 drachms of the developer, and 1 drachm of a 10 per cent. solution of carbonate of potash. Into No. 2 dish is placed 6 ounces of water, 4 drachms of the developer, and 20 minims of a 10 per cent. solution of potassium bromide; whilst into No. 3 dish is mixed 6 ounces of water, 6 drachms of the developer, and 40 minims of the bromide solution. To the extreme right is placed a large dish of plain water. The first plate is placed in No. 2 dish, and very soon the image will make its appearance, and if it shows signs of *under* or *over* exposure it is taken out and instantly placed in No. 1 dish if it requires a little stirring up, or into No. 3 should it shows signs of having had too much sunshine. If, however, the symptoms

exhibited are doubtful and call for consideration, it is simply plunged into No. 4, containing only water, and there left for a while. Mr. Thomas says that "the dishes used when developing a batch of quarter-plate negatives are whole plate size, so that he is able to do four plates at a time. We might say that Mr. Thomas' work is very beautiful, and that he has taken many prizes. His pictures of scenes on the Thames are perhaps unsurpassed. He is one of the few photographers who believe in doing things thoroughly. The developer referred to is Lockyer's concentrated metol and hydroquinone.

Mr. Ethelbert Henry sums up in the following words the conditions requisite in order that a dark room may be comfortable and fit to turn out satisfactory work:—(1.) At least enough light to enable us to read a newspaper at a distance of 3 feet from the lantern. (2.) An absence of fumes. (3.) No white light. (4.) A ready means of changing from ruby to canary. (5.) A ready means of regulating the light. (6.) White light at will. These are maxims to be laid to heart and will, as he says, if carried out make work satisfactory, and life in the dark room a pleasure instead of a misery.

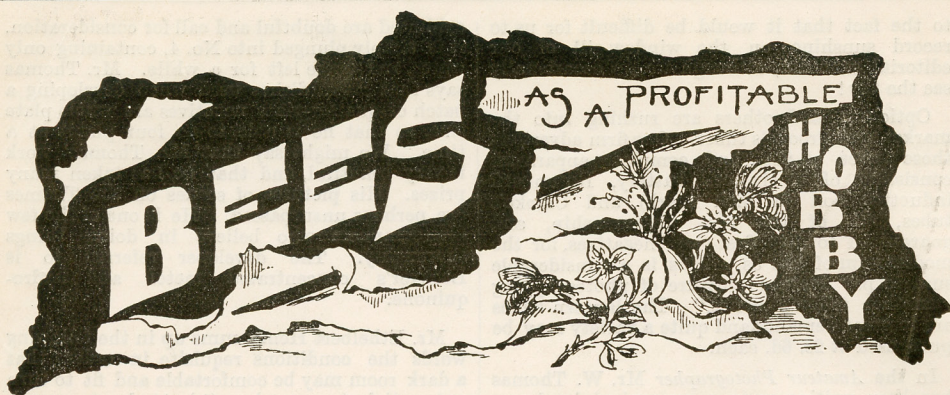
Here are a few of the requirements in order to secure a perfect lens:—The admission of ample light so that the exposure may be as short as possible; this can only be obtained by a large aperture and short focus. Sharpness up to the edge; this can only be obtained with a small stop and increased exposure. Large and flat field. Freedom from distortion. Freedom from difference of focus. Equal distribution of light over the whole field. Equal depth or the power of focussing objects at different distances from the camera. These are some of the points which guide in the selection of a lens, but it is almost impossible to get a lens that will meet all requirements. The best lens for beginners is either a single achromatic or a rapid rectilinear. These need not be of an expensive type.



## POLO CART MODEL.

The accompanying sketch is a miniature of the full-sized Design for a Model of a Polo Cart, which will be presented with each copy of next week's issue of *Hobbies*. The Model, when completed, will form a companion to the Victoria, the Design of which was given away with *Hobbies* No. 10.

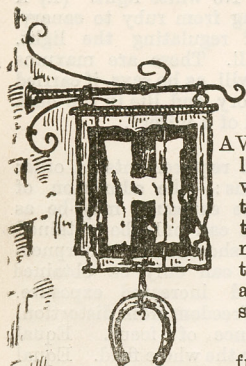




BY C. N. WHITE,

*First Class Certificated Expert of the British Bee-Keepers' Association.*

## CHAP. V.—HIVING AND SUPERING.

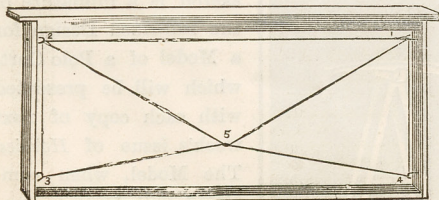


HAVING obtained a knowledge of the bees, their ways and requirements, the parts of a hive and their use, it is next necessary to consider the hiving of swarms, and the supering of both swarms and stocks.

In the first place the frames must be fitted with full sheets of foundation,

for thus the building of drone comb is prevented, and the production of drones thereby limited. One method of fixing the foundation in the centre of the frame is to open a saw cut running nearly from end to end in the middle of the top bar, and insert in it the top of the sheet. On withdrawing the screwdriver, which is used to open the saw cut, the sides of the top bar close and hold the foundation firmly in the middle, but, unless the bees of a swarm are crowded by limiting the number of frames, and thus compelled to spread evenly on both sides of each sheet of foundation, the combs will not be straight and built evenly in the frames.

This trouble and uncertainty may be entirely done away with by wiring the foundation into the middle of the frame. Thin French nails



WIRED FRAME.

are knocked through the middle of the side bars, near the top and bottom, and then turned so as to make hooks. A length of No. 30 tinned wire is then run round and across the frame. Then

when pulled tight the wires are pressed into the foundation with a small toothed wheel. The frame, with the foundation securely wired in the middle of the frame, is ready for use, either to extend the brood chamber of a stock or start a swarm.

A swarm of bees weighing 4 lbs. will, on being hived, require five or six frames. As the hive when full contains ten frames, those first given are kept to one side of the hive by a dummy or plain board placed close up to the last frame. Work in the brood chamber is accelerated and better done by thus economising the heat.

A swarm should be hived, that is, shaken off the bush upon which it settles, into a straw skep, and re-hived into its permanent home later in the day. The re-hiving is simply turning the bees out of the skep and inducing them to run into the hive prepared for them.

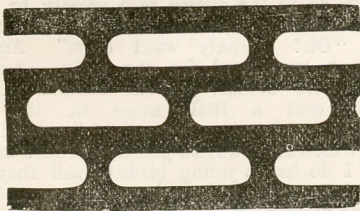
The simplest and most satisfactory method of preparing for this important operation is to fit the frames with full sheets of foundation and give as many as it is thought desirable, according to the size of the swarm; cover up snugly with quilts and then place a board in the front so that it rests upon the ground and also upon the alighting board. Now take the skep containing the bees and roll it round, holding it so that some will fall out close to the entrance, which should be open to its fullest capacity. As soon as these few commence to run into the hive roll out a few more, and gradually the whole swarm. While they are streaming in a watch should be kept for the queen, and if she is seen she should be directed to the entrance, for once she is inside the work of hiving is practically ended, as the bees will all follow and settle themselves upon the sheets of foundation.

An examination of the brood chamber should take place the next day, when, if further frames are needed, they may be given either between or on the outside of those already occupied. The bees as soon as settled will quickly work out the foundation into combs, and the queen will deposit eggs in them.



As soon as the brood chamber has, by the addition of frames of foundation, reached a size to admit of supering, the preparation of surplus chambers must be thought of. A grave mistake is often made by the novice, who is under the impression that swarms do not or should not give surplus the first season, and therefore no attempt to induce them to fill surplus chambers is made. Inasmuch as swarms usually issue during the honey-flow, they naturally have surplus from the first day. This they will store in the new combs, and in a very few days the queen is deprived of cells in which to deposit her eggs. If, however, instead of giving more frames than the size of the swarm will warrant, the swarm is confined to six or seven, or so many more or less as will cause the bees to be somewhat crowded, and a surplus chamber, limited in size as is the brood chamber, is placed above, a double advantage is secured. The surplus, that is, that quantity of honey beyond the requirements of the nurse bees, is carried above, and thus not only will honey be secured to the bee keeper, but at the close of the honey-flow the stock, as we may then term the swarm, will be in far better condition than could possibly be the case if breeding had been stopped by the storing of honey in the brood combs. As the bees of a swarm have not the thousands of grubs to feed, as is the case in a good stock, it is only natural that they may, if properly looked after, give a good profit the first season.

The style of super selected will depend upon the kind of honey, extracted or sectional, required. Shallow frame supers offer to the queen another chamber where she may deposit her eggs, but she must be kept to her own domain by a sheet of zinc, perforated so as to



QUEEN-EXCLUDING ZINC.

allow only a worker to pass through, laid upon the frames of the brood chamber. Sectional supers are usually placed directly upon the frames after removing the quilts, but although the sections are only raised  $\frac{1}{4}$ -inch by the cross bars at the bottom of the crates, there is a space of about  $\frac{1}{2}$  inch between the bars below. These two spaces give the opportunity for comb building, which bees seldom despise, and consequently when an attempt is made to raise the super it is found attached to the frames, which refuse to remain below unless a violent wrench breaks the pieces of combs that brace together frames and super. This rough usage is sure to cause irritation and a good deal of stinging. It is astounding that such a senseless method of arranging matters has not long ago disappeared. The only alteration necessary in order to avoid all this trouble and annoyance, as well as damage to sections, which will prevent the building of brace combs, may be effected by allowing nowhere a space of more than  $\frac{1}{4}$ -inch, a space bees always respect. If the standard frames, instead of being  $\frac{1}{2}$ -inch wide, were made

$1\frac{1}{2}$ , and they were still placed as they should be— $1\frac{1}{2}$  inches, or, to be exact,  $1\frac{9}{16}$  inch from centre to centre, there would only be a space of  $\frac{1}{4}$ -inch between the top bars, and brace combs would thus be prevented.

There is still another method of avoiding the annoyance referred to when moving full crates, and it is by using what is known as an adapting board. It is really a stand for the section crate, and is simply a board the size of the crate with a  $\frac{1}{4}$ -inch ledge running all round underneath. This board is placed upon the frames, where it remains the whole of the season unless an examination of the brood chamber is absolutely necessary. The bees have access to the super through two  $\frac{1}{4}$ -inch holes running nearly from end to end of the board, under each of the three rows of sections.

The first super given, whether shallow frames or sections, must not be allowed to remain undisturbed until quite filled, or swarming will be induced by want of room. As soon as the first super is half or three parts full, which can be seen by a glance through the window at the end of the super, it should be gently raised and another placed beneath it. The quilts should be increased, particularly if the nights are chilly, and the hive should be left undisturbed for some days, when, if an examination by means of the window shows that more room is still required, the top two supers must be raised to receive below them a third. It is by no means unusual for two, three, or even four supers to be necessary on a strong stock during a good honey-flow.

(To be continued.)



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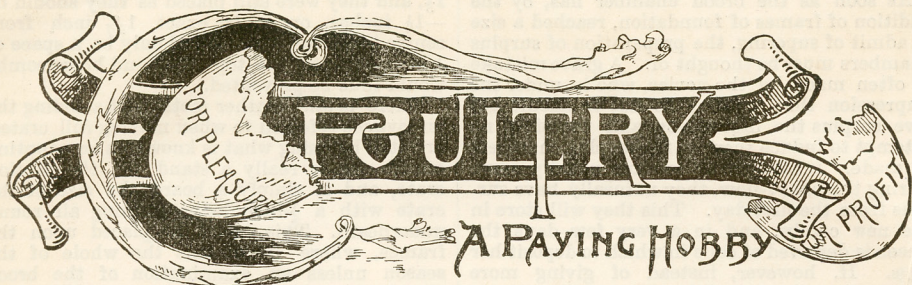
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## CHAP. I.—INTRODUCTORY.

**P**OUULTY keeping should be considered from a commercial point of view, and not merely as a pleasurable hobby. In commencing a series of articles on our feathered tribe, let us begin by stating that we pay upwards of four millions of money every year to foreigners for eggs, besides buying dead poultry, whereas England to day on her waste land alone could, with proper attention to breeding, produce all the eggs this country requires and still have some to spare. It is encouraging however to find we are taking far more interest in this subject than formerly, although much has still to be done. The writer contends that poultry if properly looked after (breed and feeding considered) can be kept both in town and country, whether in small or large runs, and be made profitable to their owners, who themselves will be better both in health and pocket.

It must be stated for the benefit of readers who have only a back yard that it is possible to produce as many, if not more eggs during the winter months in small confined runs, than farmers obtain whose fowls run on a farm with plenty of liberty.

One reason why poultry should be kept and studied more is that they are able to convert all the refuse from our tables into good and delicious food. Poultry will keep down the butcher's bill, and have a beneficial effect on the grocer's. A small portion of one's garden may be cut off and devoted to fowls, and they will prove to be more profitable than the garden, and it is simply a matter of perseverance whether the birds pay or not. How often do we hear "Oh! I tried poultry keeping, but every egg cost me sixpence." And why? Simply because the management was at fault, for it is not very difficult to prove that with proper care and attention poultry keeping can be made profitable even to the least fortunately situated. The question then is asked "How can I start in a small way?" Opinions vary very much on this question, and it is not so easily answered. Much depends upon the facilities, situation and space at disposal, also the depth of the pocket. Some say commence in the spring, others assert that the summer or autumn is the best time, but there is no doubt that the simplest and least expensive way to start poultry keeping is to buy a broody hen and a sitting of eggs from a reliable breeder at this season of the year. It is not everyone

who can afford to buy a good pen of birds of a good strain (and as will be explained later on, the worst sort of fowl to keep is the "mongrel" or fowl of "no breed"), but most readers and others interested can afford a few shillings for a reliable sitting of eggs. Should success be secured in the hatch, although the birds will want feeding for six months before they are of any size, still the cost is defrayed by instalments; and at three months old, if not considered good for the show pen or to keep, the cockerels can be killed, and the money thus realized will invariably keep the pullets until they have commenced to lay. March to May is a grand time to commence operations, and quite early enough to sit a hen. It should be stated that broody hens are recommended in preference to incubators, especially to start with, unless to an experienced hand.

Now, as to the choice of a variety to make a start with in our new hobby. One reader says, "Oh! I only want eggs." Another wants a good bird for the table. Another wants pure breeds, and he reasons thus:—"They cost a little more in the first instance, but I want a nice pen of evenly-marked birds which are always a pleasure to look at, and when I do hatch young birds to sell they will fetch two or three times more money, and still cost no more to keep than 'mongrels.'" Then again, naturally I should like to show my fowls in an exhibition now and then, and I could also sell the eggs for sitting at good prices."

After such reasoning as this let it be assumed the reader prefers the pure breeds, which it must be admitted require more money, time, attention, and space, but on the other hand give far more pleasure and profit. Of course there are many who want eggs and birds for the table, and it is here the cross breeds step in to fill the requirements; but it must be borne in mind that the best layers, as a rule, are the smallest hens. For instance, the Leghorn, Minorca, and Hamburg are practically the best egg layers obtainable, but their small size renders them unfit for the table; but when crossed with the larger breeds, such as Brahma, Cochinchina, Plymouth Rock, Langshan, or Orpington, they combine both laying and table properties.

In starting we then have to consider the breed and the strain, and, after these two important points are settled, the number, or whether we shall start with simply a sitting of eggs from a reliable breeder.

(To be continued.)



# PRIZE Competitions

## Another Competition for Everyone.

Our recent "Suggestions" Competition was so unexpectedly successful that we have decided to institute another, which will, in the same way, be open to all our readers of both sexes. We therefore offer a PRIZE of ONE GUINEA for the best, and one of HALF-A-GUINEA for the second best, description of how to make any article intended for either use or ornament. The descriptions sent may be just as short as desired, but they must not in any case exceed one thousand words. Where illustrations are necessary to make the explanations clear, sketches of either a rough or finished character should be sent. We place absolutely no restrictions upon the choice of subject, and the article described may be of wood, metal, cardboard, silk, wool, or paper, or, in fact, of any material that may be preferred. It is desirable that the articles described should, if possible, be of a novel character, and the descriptions must be thoroughly clear and practical. The Competitors cannot, indeed, have better models than the short articles which have appeared in *Hobbies*, such for example, as that on "How to Make an Imitation Marble Chess Board," in No. 20, or that on "How to Make a Folding Bookshelf," in No. 4. We cannot undertake to return any manuscript sent, even if stamps be enclosed for the purpose. The descriptions to which the prizes are awarded will be our absolute property, and we shall reserve to ourselves the right to publish any others which may seem suitable. These will, however, be paid for at our usual rates. All entries must be received at our Office, Bouverie House, Salisbury Square, London, E.C., not later than Saturday, April 4th. The envelopes should be marked "Description Competition."

## Photography.

Every month we give a prize of TEN SHILLINGS for the best PHOTOGRAPH, and FIVE SHILLINGS for the second best. Subject for this month—"Landscape and Seascape." The print may be by any process, and from any sized negative up to "whole plate." Photographs cannot be returned, and we reserve the right to reproduce any of them in *Hobbies* if thought desirable. Photographs for this Competition must be sent to our office not later than March 31st, marked "Photograph."

## Bent Iron Work.

For the best BENT IRON WORK GRILLS, made from Presentation Design No. 14, we offer one Prize of a GUINEA, and one Prize of HALF-A-GUINEA.

All matters relating to the actual work, i.e., width of metal, method of fixing, etc., are left entirely to Competitors, and the awards will be given to those examples which shew the best general work.

Every Competitor should write his or her name clearly on a label which must be attached to the Grill itself.

All Grills sent in for Competition will be returned if desired, and for this purpose fully stamped and addressed labels must be enclosed. In no case can articles be returned unless sufficient stamps are sent.

Articles should be marked "Grill," and must be received at our Office not later than March 31st.

## Fretwork.

For the best FRETWORK MODEL of a VICTORIA, made from the Design presented with *Hobbies* No. 20, we offer Two Prizes:—

First Prize—An "IMPERIAL" TREADLE FRETSAW, with Superior Tilting Table for Inlay Work, Vertical Drilling Attachment, and all Modern Improvements.

Second Prize—A Finely Finished Treadle Fret-saw, with Nickel-plated Tilting Table, Emery Wheel, etc.

The choice of wood, method of cutting, and all matters relating to the actual work are left entirely to the Competitor. We would strongly urge, however, that all Articles should be left plain, and that no polish, varnish, stain, or paint of any kind be used.

Every Competitor should write his or her name clearly on a label which must be attached to the Victoria itself.

Articles sent in for Competition will be returned, and in every case it must be stated clearly whether they are to be sent back by post or rail. If by post, sufficient stamps must be enclosed, and these should be affixed to the addressed label. If returnable by rail, the name of the nearest Railway Station must be clearly given.

As the work of unpacking and repacking these Fretwork Articles entails a great amount of labour, we must ask Competitors to adhere to our rules and suggestions as closely as possible.

All Articles sent in for Competition should be marked "Victoria," and must be received at our office not later than March 31st.

## Wood Carving.

For the best CARVED BLOTTER BOOK COVERS, made from Presentation Design No. 15, we offer Two Prizes:—

First Prize—ONE GUINEA.

Second Prize—SET OF TWELVE SUPERIOR CARVING TOOLS.

The choice of wood and method of carving and finishing are left to Competitors.

Only one side of the Blotter should be sent, and the Carving should not be made up in book form.

Every Competitor must write his or her name clearly on a label which should be pasted to the back of the article.

Articles sent in for Competition will be returned if desired, and for this purpose fully stamped and addressed labels must be enclosed. Blotters cannot be returned unless sufficient stamps are sent.

Articles should be marked "Blotter," and must be received at our office not later than April 30th.

## Notice to Competitors.

All Articles, Sketches, etc., for Competition should be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The name and full address of Competitor must in every case be sent.

NOTE:—No correspondence can be entered into with Competitors, and all awards made will be final.



## How to make Photographic Enlargements.



N these days when so much work is done with the Hand Camera, chiefly on  $\frac{1}{4}$ -plates, the ability to make enlargements becomes almost a necessity, and we shall in a few chapters set forth how best to make enlargements on Bromide paper, and also how to make an enlarged negative.

There are several factors which enter into the work of Enlarging, and these, as Mr. George Wheeler says in his admirable book upon the subject, are:—  
(a) A suitable negative; (b) a positively sharp image; (c) correct exposure; (d) the choice of a good developer.

There are certain points in the taking of a negative which it is intended to enlarge from that must be considered. The use of a wide-angle lens in a  $\frac{1}{4}$ -plate Camera on a landscape view will, when an enlargement up to say  $12 \times 10$  inches is made, give a false perspective and a foreground that will be out of all proportion with the actual conditions.

The perfection to which Bromide paper has been brought, the absolute control over exposure, the many excellent developers, and the methods of toning the developed prints, make it possible to produce, in the enlargement from the negative, a result which for artistic value—given a good subject—will equal anything that it is possible to print direct from a negative on platinotype, or any other direct printing paper.

We say this because it will be our aim in these articles to encourage the small worker to take up enlarging, rather than advise him to go in for large direct work in the Camera. With, say a whole-plate Camera, the first cost of apparatus is very great, and every step that is afterwards taken means spending money. With the Hand Camera or  $\frac{1}{4}$ -plate Camera on tripod the first cost is small. The owner can afford to make experiments and perfect himself in the art of taking a Photograph, and, so soon as he has made a perfect negative, he can at small expense produce an enlargement on paper only limited by the size of the paper, which, if all things are done well, will hold its own by the side of many prints made direct from the negative.

A very distinct advantage to those taking up enlarging is found in the excellent work it offers for dull evenings. In the winter months the Photographer can find pleasure, and often make profit by enlarging from his choice negatives, without fear of failure from bad weather or the many ills and difficulties that beset the man who wants to make prints. In the ordinary course he must expose his printing frames to daylight, and for several months of the year—even if he had the time at his disposal—such work is handicapped by the fickleness of Dame Nature. So we say that everyone taking up Photography should learn "How to make Enlargements."

In order to enlarge correctly reference to a table of distances is desirable. We know that

enlarging is often done in a very haphazard way, but the following table will help those who wish to work upon exact lines. We should explain that the two numbers at the junction of the vertical column below the number of times of enlargement or reduction, with the horizontal line opposite the focal length of the lens, gives the distance of the negative (a) and plate (b) respectively from the lens. For example, to enlarge five times with a lens of 6 inches focal length the paper must be 36 inches and the negative  $7\frac{1}{2}$  inches from the lens.

FOCUS  
OF LENS. TABLE FOR ENLARGEMENT.

	1	2	3	4	5	6	7	8
in.	in.	in.	in.	in.	in.	in.	in.	in.
4 a	8	12	16	20	24	28	32	36
b	8	6	$5\frac{1}{2}$	5	$4\frac{2}{3}$	$4\frac{1}{3}$	$4\frac{1}{4}$	$4\frac{1}{8}$
4½ a	9	$13\frac{1}{2}$	18	$22\frac{1}{2}$	27	$31\frac{1}{2}$	36	$40\frac{1}{2}$
b	9	$6\frac{3}{4}$	6	$5\frac{5}{8}$	$5\frac{3}{4}$	$5\frac{1}{2}$	$5\frac{1}{4}$	$5\frac{1}{8}$
5 a	10	15	20	25	30	35	40	45
b	10	$7\frac{1}{2}$	$6\frac{2}{3}$	$6\frac{1}{4}$	6	$5\frac{5}{8}$	$5\frac{1}{2}$	$5\frac{3}{8}$
5½ a	11	$16\frac{1}{2}$	22	$27\frac{1}{2}$	33	$38\frac{1}{2}$	44	$49\frac{1}{2}$
b	11	$8\frac{1}{4}$	$7\frac{1}{2}$	$6\frac{7}{8}$	$6\frac{3}{4}$	$6\frac{1}{2}$	$6\frac{1}{4}$	$6\frac{1}{8}$
6 a	12	18	24	30	36	42	48	54
b	12	9	8	$7\frac{1}{2}$	$7\frac{1}{4}$	7	$6\frac{3}{4}$	$6\frac{1}{2}$

We shall deal with the four factors in the two next chapters, and shall then give a few illustrations and suggestions as to how to make the necessary apparatus for enlarging.

The general conditions to be considered divide themselves naturally into—the light, which varies continually if it be daylight; the aperture of the lens, which will vary and must be allowed for; the negative, which may be in one case thin and clear and in another dense and yellow; the paper to be used, no two makes being alike; the chemicals for developers, which vary in strength with the temperature and the degree of enlargement decided upon.

With regard to the apparatus, upon which we shall treat very fully, it may be broadly stated that for enlarging by artificial light the same principles apply as in the construction of the optical Lantern, except that it is possible under certain conditions to dispense with the use of a condenser. If the negatives are Lantern plate size— $3\frac{1}{4} \times 3\frac{1}{4}$  inches—it is possible to use the ordinary optical Lantern, provided it is fitted with a condenser of not less than 4 inches in diameter.

So far as the illuminant goes, the worker has the choice of electric light, limelight, mineral oil, and lastly, the incandescent gaslight; on all these we shall have something to say. The most popular method of illumination is, so far, the ordinary paraffin lamp. The parallel wick arrangement (used in oil-lit optical Lanterns), although giving a powerful light when used for projection purposes, is not so successful for enlarging purposes. Perhaps one of the most successful oil lights is that given by an ordinary circular wick burner; this will secure good definition, but the exposure is, of necessity, somewhat protracted a matter.

Next week we shall deal with the subject so far as to endeavour to explain what is meant by "a suitable negative," and "a positively sharp image."

(To be continued.)



## How to Ride a Bicycle.

### THE WOBBLING STAGE.

**W**E must claim the indulgence of those whose novitiate is over if we continue to linger a little upon the rather important matter of learning to ride a bicycle. Our excuse must be that the number of learners at the present time is legion. A very large proportion of these are ladies. Into the question of the suitability of cycling for women we need hardly enter here. The medical profession is practically unanimous in favor of it, and many doctors who possess, in addition to their physiological knowledge, a good practical acquaintance with cycling, have spoken most enthusiastically about the benefits of the pastime for the weaker sex.

We referred briefly in our last issue to the general principles of the balance, and we think the novice will benefit considerably in learning, and will pick the art up much more readily if he (or she) first grasps the theory of the thing.

It may sound curious to say so, but it is of course no less a fact that every wobble of the learner may be accounted for by well known laws. It would be too ridiculous to ask the learner who is struggling with a bicycle for the first time to refer to science for an explanation of each lunge he may make, but let him just study the theory of the thing for a few minutes before he begins, and he will feel the benefit of his knowledge very quickly.

We should always recommend the learner to see that his seat is placed fairly low down, so low, that while sitting in the saddle, and with one pedal pushed down to its lowest point, the leg will still remain bent to a considerable angle. The handles again should be high, so high that they can be easily reached and firmly grasped while sitting in a perfectly upright position. But it does not follow that the pose we here suggest as the best for the person who cannot yet ride at all is the best for actual work when the preliminary stage is passed. It is not the best, but we will refer again to the whole subject of position on the machine when we have first succeeded in seeing our readers through the A B C of cycling. Our object in prescribing a very low seat for the learner is merely that our novice shall have confidence. The low seat will enable him (by which pronoun we always, unless we specially except it, mean "her" as well) to reach the ground the more easily, and thus catch himself when, in his first wild struggles, he is unable to keep the machine on end. The knowledge that he can easily reach terra firma with his foot will embolden him to strike out more freely, and the braver he is the more quickly will he learn. High handles are recommended simply because, for the novice who is bound to lunge about more or less, they are better and easier to deal with.

Learners should never neglect the opportunity, if it offers, of getting a little riding on a tricycle before attempting the two wheeler. On the tricycle they will pick up the pedalling action, which some people find great difficulty

in at first. When the novice knows nothing of pedalling, or balancing, he must, if he comes first to the bicycle, learn both these accomplishments at once. It is much better to acquire a moderate proficiency of the pedalling part of the business by a little tricycle practice, and then turn to the single track machine with only the one difficulty—the balance—to face. The importance of this "tip" should not be overlooked, as a great many people find the rotary pedal action, to which they are entirely unaccustomed, actually the more difficult process of the two to pick up. Any old tricycle will do for the purpose, and half an hour's pedalling on such a machine will really make a great difference when the learner tackles the bicycle. More time than this should however be devoted to the "trike" if possible.

To show how much a knowledge of pedalling assists the bicycle novice, we may point out that numerous instances are on record of people getting on to a bicycle for the first time in their lives and riding straight away without a fall, or even a serious swerve. All such people had previously ridden some form of tricycle. They had learned the pedalling, and felt quite at home on the bicycle, where they found their feet going round exactly as on the machines formerly used. The simplest way to learn is to secure the services of a friend to hold one up, and here much labour and time will be saved if the instructor thoroughly understands his business. We cannot very well attempt the task of teaching the teacher. A good teacher will require no instruction at our hands. To the inexperienced we can say that the less help the novice can do with the more quickly will he learn. A flat wide road is a much better place to learn on than any covered room, and those who can command the services of some one to help them in some quiet place will have the best of it from more than one point of view.

There are of course those, presumably a few, who are so placed that they must teach themselves or remain ignorant. The end we should suggest as before, a quiet, wide, flat road. Flat, that is, both as regards absence of gradient, and also transversally. There is nothing bothers a novice so much as a road which has a rather sharp "cant" towards the gutter, for on such a road the rider's machine always makes for that gutter at once, and invariably evinces the greatest objection to remain on the crown of the road. Next see that the seat is very low, and that the handles are well up. Then place one foot upon the step, grasp both handles, get the machine upright, and hop along the ground with the other foot. Try all the time to keep the machine upright. It must be canted over a little on the opposite side to the step, in order to correct the rider's weight, part of which is on the step.

Now endeavour to ride on the step, having first acquired a little momentum by a push off, or use a road slightly falling in your favour for this purpose. The balance can be easily learned in this way, and when the novice thinks he has it (a lady by the way would not learn like this unless dressed in "Rationals") let him get into the saddle while the machine is stationary, and from his low seat push from the ground with his foot.

(To be continued.)





\* All communications to be answered in these columns should be marked "Correspondence," and must be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. In no case can we reply to enquiries by post.

#### BEES.

**BEE KEEPER.**—For bee hives good pine should be used. Oak is seldom employed, except for making observatory hives, as it is too cold and heavy. You need not discard the oak hive which you have made, nor need you fear putting bees into it, as neither they nor the honey will take harm from the smell of the wood. For future hives it would be as well to choose a lighter and warmer wood, such as pine or deal. To keep an equable temperature inside the hive should be the first consideration; then, when the removal of full supers takes place, the advantage of lightness will be evident.

#### ELECTRICITY.

**P. CLEMENTS.**—Compressed carbon plates are not considered as good as cut plates for battery purposes, but they have the merit of being somewhat cheaper.

**J. HUMES.**—The price of gutta percha is about 8/6 per lb. A piece 18 in. by 12 in. by  $\frac{1}{8}$  in. thick would measure one pound. The lead plates in an accumulator must not touch each other.

**G. WEBSTER.**—"Farming" is the term used by Electricians to express the manipulation which accumulator plates undergo to enable them to retain the charge. The operation is explained in No. 2.

**G. H. CHALLENGER.**—We can hardly understand that 5/- per lb. is charged for Chromic Acid. We will supply you with it, if you choose, for 2/- per lb. if you pay the postage. You may use P.B. if you choose, but it is not so good; price is the same as the Chromic Acid.

**C. LAMBURN.**—The battery described in *Hobbies* No. 2 must be very well made indeed to light a 3 c.p. lamp. To light a 5 c.p. 10-volt lamp you require 6 half-gallon cells connected in series. Primary batteries are those in which the current is developed. Storage or accumulator cells are those in which Electricity is stored.

#### FRETWORK, CARVING, &c.

**J. HILTON.**—The Tower Bridge Fretwork Design is published by Skinner & Co., of Dereham, price 1/-

**J. T. M.**—The price of mirror for Design No. 2 is 1/6. No. 11 is for a photograph; the frame is rather light for a mirror.

**SMOKER.**—Your suggestion is good, and the next Pipe Rack Design which we issue will be so arranged that the pipes are placed *bowl downwards*.

**H. MORGAN.**—Evidently you do not read our *Correspondence* page. If you will glance at the answer to "C. B." in No. 2, or to "Nemo" in No. 19, you will get some hints as to how to straighten warped wood.

#### METAL WORK.

**VULCAN.**—Your card is very vague. What Prize Fire Screen did we give away with No. 17? If you refer to the *Grill* presented with No. 14, we think that a frame-work  $\frac{1}{2}$  inch would be too heavy. Read the article on the Design in No. 14.

#### PHOTOGRAPHY AND LANTERNS.

**W. HOBBS.**—We make no distinction in regard to our Photographic competitions, they are open to everyone.

**T. P. S.**—It will be quite possible for you to buy a Hand Camera for 40/-, and we should advise you to give Mr. Henry Pickering, of your town, a call; he will be able to show you two or three patterns, and will give you full particulars and excellent advice.

**JOHN COX.**—The plano-convex lens,  $1\frac{1}{2}$  inch in diameter, certainly should be got for less than the sum you name. But surely you could, for a few pence, get "an ordinary watch glass," which the writer of the article in No. 15, on page 352, says may be used.

**IVANHOE.**—We are not able to help you. *Methyl* is synonymous with alcohol, wood spirit; and when used as a prefix to colours would signify that the colours were mixed with "wood spirit." You had better make enquiries of an artist colourman.

**W. H. W.**—There will very shortly be published in *Hobbies* a series of articles upon "How to Photograph," and we shall in due course treat of the retouching of negatives, etc.; colouring photographic prints, etc.

#### STAMPS.

**W. L. O. (Liverpool).**—In the reprints of the first issue of *La Guaira* (ship and large figure of value) the horizontal ground lines run *through* the numeral.

**J. H. F. (Trowbridge).**—No, we should not class your  $\frac{1}{2}$ d. English with misplaced watermark as an error. In our opinion the multiplication of so-called "errors" is a great drawback to Philately, and calculated to drag our hobby into disrepute and ridicule.

**H. W. T. (Harlesden).**—The three unused Ionian Islands' stamps are not reprints, but official remainders. These stamps are scarce in the *used* condition; unused, they are worth about 5/- the set of three. As to your "I.R. Official," you omit a most important point:—What is its face value?

**F. J. (Birmingham).**—Only the largest firms of stamp dealers could do what you wish. Buhl & Co., Limited, 11, Queen Victoria Street, E.C., are, or were, greatly interested in South American stamps, and could perhaps supply selections of Brazil, Chili, or Uruguay. Hilkes & Co., 64, Cheapside, E.C., make a speciality of the last-named country.

**E. J. I. (Moss Side).**—It would not be safe to decide that your 4d. Montserrat is the C.A. variety without seeing it. Could you not send us the two specimens, or, failing that, photograph them. Probably your Virgin Islands are "O.K." The postmark of the 6d. is quite as it should be. The Austrian stamp you sketch is a fiscal. The Bremen stamp you describe is perforated in the style known as *perce en scie*, but whether your specimen is genuine we cannot tell without seeing it. The genuine Bergedorfs are to be distinguished from the reprints by certain secret marks, which we must explain when space permits.

#### MISCELLANEOUS.

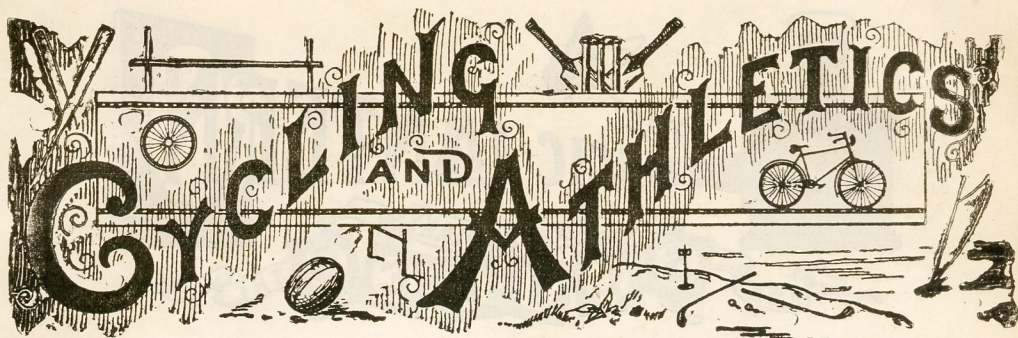
**H. B. P.**—An index will be issued with *Hobbies*.

**J. GARRETT.**—We have not yet had any articles on stained glass or enamelling.

**H. D. K.**—We cannot write an article on tame mice here, but we hope to take up the subject at some other time.

**R. B.**—If you write, stating exactly what kind of scenery and fittings you require for your model theatre, we may be able to help you.





## NOTES ON SPORT.

THE cyclo-political world is again in the throes of another great controversy on the great and endless "amateur question." The position of affairs is briefly as follows:—The National Cyclists' Union have a strict and closely-drawn definition of an amateur, and the governing body further attempts to guard itself against imposture by a rigid system of licensing. No one can ride as an amateur unless he first obtains a license from the Union. All these precautions have been rendered necessary on account of the practice which is largely in vogue of prominent cycle makers subsidising racing men for purposes of advertisement. Of late, however, the remedy has to many people seemed worse than the disease. In spite of its efforts the N.C.U. has only partially succeeded in removing the "maker's amateur," and at the present time most of the records are held by riders who, though nominally amateurs, are at the same time very closely associated with the cycle trade. To meet this the licensing system has been made so severe that the better class of amateur has been leaving the sport in disgust. To get over some or all of these difficulties it is now proposed to alter the amateur definition so that amateur and professional riders may be permitted to compete together. The idea is that if a man is offered as a prize the alternative of "gold" and "value" time after time, it will not be long before he appears in his true colours. The man who desires to make his racing pay will take the gold, and those who race purely for love will take the medal or cup. The scheme certainly seems very simple, and it should be an effective way out of the difficulty. We trust the measure will pass for two reasons. It will do away, in the first place, with a tremendous amount of humbug, and in the second it will at once relieve the Union of the endless struggle to decide who is an amateur and who is not, which the present system involves. Relieved of such troubles as these, the N.C.U. would be able to devote far more of its time and energy to the non-racing section of the cycling public. The latter constitute at least 90 per cent. of all cyclists, and they are certainly not getting their share of attention at the hands of the governing body at the present time.

There is plenty of discussion just now on the question as to whether cyclists should be admitted to the public parks in the large cities. We can hardly see that the matter admits of much debate. A cycle is (in the eye of the law) a carriage, and consequently it ought to be admitted to all parks to which carriages have access, and on the other hand we hardly see that riders have any claim to admission to roads or walks where carriages may not go.

Cycle racing, owing to climatic advantages, is now in full swing in the south of France and other sunny districts. It is, however, surprising to find that in a few days' time a Russian cycle championship is to be decided at St. Petersburg. The event is a 27 kilo race, and the prizes are the gift of the Royal Family of Russia. Some of the more fancied competitors have been training in Paris. St. Petersburg is a little too cold in February for cycling practice.

The great Inter-University Boat Race again draws near. One feature about the contest this year is that

there is no marked favouritism for either crew. In fact, the best judges of rowing agree that there is very little between the two blues at all in the matter of speed on the river. Both crews, according to the critics, lack some degree of style and finish, but the Cambridge men are credited with considerable improvement in this respect. The race should be a very interesting one.

In other Inter-University contests Oxford has been scoring all along the line, one of the more recent victories of the dark blue men being the match at Association football. Here the competition was close, and the margin in favour of the winners a very narrow one, but a win is a win, and Oxford with one goal to nil gained the honours.

It is said that Stargess, the amateur champion walker, is to take up cycle racing in earnest, and is already in strict training. We see no reason why he should not succeed; cycling and walking have a good deal in common so far as the development of the muscular and other bodily powers are concerned, and numerous instances are on record of prominent athletes taking to the wheel with success. Two very well-known cases may be mentioned. They are E. W. Parry, of Newtown, who for a number of years was at the very top of the tree in steeplechasing and long distance running, and also E. Parlbay, of Newark, who was a first-class sprint runner. Both these men after giving up pedestrianism attained a considerable measure of success as speedy cyclists.

We referred in these columns some weeks ago to the fact that the Marquis of Queensbury was thirsting for a cycling match. That match has now been decided, and the Marquis has won. Nothing is said about the £100 which the worthy Marquis at the first proposed to ride for, and, in fact, we have every reason for believing that in the present case the race was for "love," or at the most for a "dinner." The loser on this occasion was a very well-known athletic and rowing man, C. B. Lawes. As it is 30 years since Mr. Lawes was a champion runner, he can hardly be a chicken at the present time.

In the Southern Counties' Cross-Country Championship race 117 men started, and a very pretty sight it was to see this large number of good runners all spinning along together dressed in colours of every hue. These 117 men were the representatives of the senior clubs, and the event resulted in a victory for the Finchley Harriers, who won by a narrow majority of points from the Kanelagh Harriers, Essex Beagles being third. The first man to finish was G. Martin, who ran for Essex. Martin lost a shoe some two miles from home, but very pluckily completed his work, and kept his position without it.

The "Junior" clubs ran over the same course, and the Bristol Harriers were easily first. The curious part of it was, however, that T. Pavey, the first "junior" home, and a member of the winning team, actually made faster time than Martin, who won the seniors. It was a pity that the Bristol Club had not decided to have tried for the "senior" event. Had the club done so its representatives must have been well to the fore, and on the time test Pavey would have been the first man home.





## HAVE EVERYTHING IN ORDER.



IT could hardly be a better conclusion to these articles on the Magic Lantern than to give instructions on how to make the necessary preparations for an entertainment. Major Wilkinson, of the Southsea Amateur Photographic Society, recently read a paper upon the subject, and in the *British Journal Almanac* the following "Directions for Use" are given:—

### CYLINDERS.

1. As soon as unpacked, tighten valve glands by spanners, otherwise they are liable to leak when gas is turned on.

2. Fix regulators and tubing. Red regulators and red tubing; red regulator and red tubing to hydrogen cylinder (painted red), with a left-handed screw, and black regulator and drab tubing to oxygen cylinder (painted black). Never interchange tubing. What has once been used for hydrogen (coal gas) should not be used for oxygen, and *vice versa*.

### LANTERN.

3. Fix Lantern on top of box, with spare screw inside lid, and fix rose or other top on dome. (If an Oil Lantern is in use, extend chimney before fixing to lamp.)

4. Open ventilators to Lantern.

5. Fix required jet, mix or blow through. The mixed jet should not be used unless both gases are under pressure from cylinders.

6. Connect hydrogen (coal gas) cylinder (painted red) with H tap, and oxygen cylinder (painted black) with O tap, by means of the tubing.

7. Bypass of jet should be open, *i.e.*, with the word 'On' at the top of the head of the revolving rod which extends outside the Lantern.

8. The H and O taps should be turned off, *i.e.*, at right angles to the pipes they control.

9. Turn on gases at cylinders by means of key. Turning the key about 90° is generally enough.

10. Take a lime cylinder from tin. Clear out hole in centre, dust it, and fix it on its support in the lamp.

11. Slowly turn on H tap, applying a match to jet, and light the gas; let it burn with a small flame, reaching to about the top of the lime, for at least five minutes, keeping the Lantern closed for the sake of greater warmth. The lime can be rotated as required, and at the same time it is gradually lowered or raised.

12. Adjust distance of lime from jet. The surface should be about three-sixteenths of an inch from jet, a final adjustment being made when O is turned on.

13. The H flame being small—say, one inch long—slowly turn on the O tap till the flame begins to change and shorten; then a little more H; then a little more O, and so on.

14. Make final adjustment of lime. With the blow-through jet the lime should be as close to the nozzle as possible, without a black spot in the centre being visible. With the mixed jet it should be as close to the nipple as the turning of lime cylinder will permit.

15. Adjust incandescent point of light into focus of condenser. The conjugate focus should fall about the centre of the objective (diaphragm slot). You will therefore want to insert a Slide, and focus it on a screen. Having got your objective approximately right, perfect the centring of your light—raising or lowering, slewing to right or left, advancing or retiring—so as to get an evenly illuminated disc on the screen. Re-focus Slide, and make any final adjustments required.

16. Final regulation of gases to get the best possible light.

17. When all is satisfactory, turn off bypass, so that word 'Off' is at the top of the head of the revolving rod. Do not touch taps again, unless they get shifted by mistake.

18. The lime should be slightly turned after changing each Slide, an intermediate turn being given after two or three minutes if the description is long. This is to avoid pitting. A deep pit or crack is liable to make the jet hiss, and the flame is sometimes thrown back on to the condenser and cracks it.



19. If the hydrogen has been kept long in its cylinder it is liable to clog the jet a little. If so, turn light down by the bypass, and touch the jet with the point of a knife. Nothing should be inserted into jet that can possibly make it rough inside.

20. To extinguish the lamp turn off O and H taps, little by little, commencing with the O tap. Another plan is to turn off the bypass, turn off oxygen and hydrogen at the cylinders, revolve incandescent part of lime to back of Lantern, and blow out the small flame.

The above directions are for a single Lantern, using compressed gases in ordinary cylinders and regulators.

We shall now draw our Lantern articles to a close. We have endeavoured to point out the various uses of the Lantern, the methods of manipulation, manufacture of Lantern Slides and colouring same, the arrangement and conduct of Lantern evenings, the best form of Lantern to use and how to use it, and have given a fairly full description of all the accessories necessary for an expert Lanternist. In such a series and within the limited space at command it has been difficult to cover the subject in as full a manner as we should have liked. We, however, hope next season to take the Lantern up again. Not only has the Lantern increased in popularity as an amusing toy, but it is now a necessity in the advancement of science, art, and education. The year has seen the perfection of the Incandescent gas burner for Lantern purposes, many improvements in the form of slide carriers and other accessories. What increased usefulness is in store it is impossible to say. The science of Photography and optical projection are both making such gigantic strides, that he would be a bold man who would forecast the future of either. But readers of *Hobbies* may rest assured that in this as in all other departments we shall keep abreast of the times.

#### A NATURAL BAROMETER.

In a very old number of the *Medical Times* we recently came across a quaint description of a natural barometer. A leech is placed in a common two-ounces phial about three-parts filled with water, and covered with a bit of linen rag. In the summer the water will have to be changed about once a week, and in the winter once a fortnight will suffice. The writer made the life and action of his leech a study, and published the following observations:—

1. If the weather proves serene and beautiful the leech would keep motionless at the bottom of the glass, rolled together in a spiral form.

2. If it rained either before or after noon the leech was found to have crept up to the top of its lodgings, and there remained until the weather was settled.

3. If wind threatened the imprisoned leech became exceedingly lively, and "gallops through its limpid habitation with amazing swiftness, and seldom rests until it begins to blow hard."

4. If a storm of thunder is approaching, for some days the leech would keep almost entirely out of the water and show great uneasiness in violent throes and convulsive-like motions.

5. In clear and frosty weather the leech would keep constantly at the bottom of the glass, and in snowy or rainy weather would come out of the water and keep close to the top of the glass.

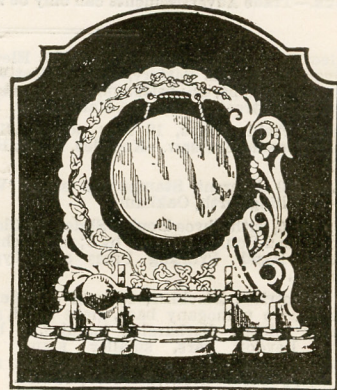
Some readers of *Hobbies* may be interested to try this barometer, and watch the gyrations of the annulose worm.

## 'Hobbies' Designs.



WING to the very heavy expense involved in the production of the Designs forming our Weekly Presentation Supplements, we cannot supply these with back numbers of *Hobbies*. Copies of them may, however, be obtained on sending *threepence* for each Design required to the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

For the convenience of our readers we give below a complete list of the Designs already published.



No. 20. GONG STAND.

1. Midget Photo Frame, with Overlay Ornament.
2. "Aphrodite" Mirror Bracket.
3. Bent Iron Work Gong Stand.
4. Hanging Twine Box, with Overlay Ornament.
5. "Card" Inkstand.
6. Carved Adams Frame.
7. "Gasalier" Bracket.
8. Bent Iron Work Table Stand, for Cards, etc.
9. Carved Lamp Bracket.
10. Model of a Victoria.
11. "Toilet Glass" Cabinet Photo Frame.
12. "Swing-Boat" Match Holder.
13. Hanging Fretwork Calendar.
14. Bent Iron Work Grill Panel.
15. Carved Blotting Book Cover.
16. Prize Card Receiver.
17. Panel with Overlaid Ornaments.
18. Bookshelves.
19. Two Stencil Dado Bands.
20. Gong Stand.
21. Two C. D. V. Photo Frames.
22. Pipe Rack, with Mirror Back

The following Designs are in preparation—

23. Model of a Polo Cart.
24. Hanging Letter Holder.

NOTE.—The Patterns not otherwise designated are Fretwork.



# FOR Sale and Exchange.

The charges for advertisements (prepaid) in this page will be sixpence for every twelve words or less, name and address inclusive, and one halfpenny for every additional word. Single letters, initials, and figures are each counted as a word; but undivided numbers (as 152), and prices (as 10s. 6d.) count as only one word each. In every case the name and address of the advertiser must be given for publication, and we cannot at present undertake to supply a private name or number and receive replies to advertisements at our office. All advertisements must be accompanied by remittances, otherwise they cannot be inserted. Whenever possible, payment should be made in Postal Orders, and not stamps. Letters should be marked "Advt.," and must be addressed to the Publisher, *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

**NOTE.**—Trade Advertisements can only be inserted in this page at the rate of one shilling per line.

**Acme Electric Bell Set**, comprising 2½ in. Electric Bell, Quart Leclanche Battery, Push, 50 feet Wire, Staples, Instructions, 4/6; better value impossible.—Electric, Lord Street, Openshaw, Manchester. H. 3.

**Achromatic Field Glass**, 12 lens power, £1, or exchange Treadle Fretsaw.—Knowles, Post's Road, Burnley.

**Album and 500 different Stamps for sale.** What offers.—H. Ellingworth, Oakham.

**Camera**, 9 by 5, with three Double Slides, by Clarke, London; also 2 Double Slides, 8 by 8; will exchange for small Hand Printing Press and Type.—Spemington.

**Cylinder Electrical Machine**, 10 inch cylinder on 19 inch square mahogany base, glass wand, glass and brass jointed discharging handles, 6 brass mounted Leydon jars, smaller stand with rising table, and brass swivelled rods on glass pillars, 16/6, packed.—Stone, Royston, Cambs.

**Electrical Hobbies.**—How to fit up an Electric Bell Set, make a Motor, and make a Shocking Coil. Separate illustrated instructions, free with list, 2d.—Electric, Lord Street, Openshaw, Manchester. F. 4.

**Electric Light Set**, comprising lamp, two batteries, instructions, etc., 1/9.—City Electric Stores, 7½, St. John's Lane, E.C.

**Foreign Stamps**, 100 different, grand value, picked from my duplicates, 1/1.—Collector, 6, Exeter Street, Brighton.

**Foreign Stamps.**—Sheets on approval. Low prices. Good variety. References or deposit required.—Phoenix Stamp Co., 31, Radnor Street, Peckham.

**Free**, 20 different United States to all applicants for sheets enclosing postage; 100 different stamps, 5d.—Rhodes, Rammas House, Otley.

**How to become a Lightning Cartoonist**, 7d.—Hotham, 24, West Parade, Huddersfield. B. 2.

**How to make an Electric Night Light** that will work well for years without attention, post free, 6 stamps; also how to attach an electric alarm to a clock, 6 stamps.—James, 11, Stanbury Road, Peckham, S.E. C. 1.

**How to learn and start a light artistic business** that will produce a living without previous knowledge on the small capital of one pound. Complete instructions, post free, 12 stamps.—James, 11, Stanbury Road, Peckham, S.E. C. 1.

**Magic Lantern**, 2 wick patent refulgent lamp, 15/6. Seen at any time.—Dowsett, Boundary, Ponder's End, N.

**New Book of Instructions** in gliding, graining, mixing paint, French polishing, picture-frame making, mount cutting, etc., 1,000 valuable recipes, free, 1/2.—McQuhae, Cockermouth, and all Booksellers. L. 11.

**Old English Stamps Wanted**, any values; also current issue, above 1d.—Gait, 17, Bailey Road, Portsmouth. B. 1.

**Stamps.**—Gratis, six unused French Colonies, free to all applicants for approval sheets.—Davey, Messing, Kelvedor.

**The Red List of Illustrated Electrical Goods**, 2 stamps.—Gorton Brook Works, Manchester. B. 2.

**Wanted**, every reader of *Hobbies* to send 1/- for one of our Pocket Knives (2 blades), free with our lists; do not delay.—Electric, Lord St., Openshaw, Manchester. D. 2.

**Wanted**, for cash, old English Postage Stamps, used, unused, and "Specimen," all values.—Kerr, 4, Hillside Street, Edinburgh. B. 1.

**Want to Purchase**, Second-hand Treadle Fret Machine.—Florence, 46, Devonport Street, Commercial Road, East.

**36 Advanced Fretwork Designs**, 3/-, cost 10/-, or exchange crests.—Spencer, 35, Wellington Road, Harborne.

**100 Bound Novels for Sale**, Cheap. Lists.—Tricker, 30, Church Road, Battersea.

**Wanted**, Old English Stamps, I.R. Officials, and others, used and unused. See below.

**FREE.**—A fine Stamp Album given to all sending 7d. for Packet 23, containing 48 Foreign Stamps, including—Kewkiang, Chefoo, Costa Rica, Shanghai, Argentine, Austria, Eritrea, Monaco, &c. See below.

**FREE.**—A genuine Triangular Cape of Good Hope (very scarce) given free to all purchasing 3/- worth of Stamps from Sheets. See above.

G. BUSTON,

106, Newport Road,

Cardiff.

## BENT IRON WORK.

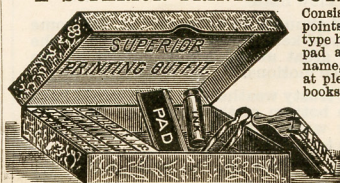
Price List, Design Sheet, and particulars of our Special Tool, "THE IONICAL," post free, 1d.

### —\* BAMBOO WORK, \*—

Every requisite at low prices. Sole Agents for the new Screw Plug Joint (Pat. app. 13,429/95), cheap and simple. Price List, with full particulars, on receipt of 1d. stamp.

**THE AMATEUR'S MARKET, LEEDS.**  
8, BRITANNIA BUILDINGS,

### A SUPERIOR PRINTING OUTFIT for 1/6.



Consisting of 74 letters, points, and ornaments, a type holder, supply of ink, pad and tweezers. Any name, &c., can be made at pleasure, for stamping books, papers and printing cards.

Postage 3d. extra. ILLUSTRATED CATALOGUE FREE. N.B.—Larger Outfits can be supplied at 2/6, 3/6, and 6/6 each.

H. LINDNER, 170, Fleet Street, London, E.C.



## NOTHING SUCCEEDS LIKE SUCCESS.

It is almost beyond belief, yet IT IS A FACT, that the SALE of HOVIS BREAD is over 1,000,000 Loaves PER WEEK, besides BISCUITS, SCONES, &c.

*Highest Award at Food and  
Cookery Exhibition,  
LONDON, MAY, 1895.*

SUPPLIED TO THE  
QUEEN and ROYAL  
FAMILY.

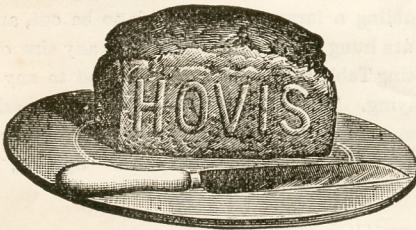
# HOVIS

REGD.

## BREAD & BISCUITS

6d. and 1s. Samples of  
Bread and Biscuits on  
receipt of Stamps.

MISS FRANCES E. WILLARD  
says: "Hovis is a grand institution. I have almost lived on it since I found it out."



PROMOTES  
DIGESTION.

PROMOTE  
DIGESTION.

### IMITATION IS THE SINCEREST FORM OF FLATTERY.

The Public are cautioned against accepting from Bakers spurious imitations of "HOVIS," which, having met with such unprecedented success, is being copied in many instances as closely as can be done without risk.

If any difficulty be experienced in obtaining "HOVIS," or what is supplied as "HOVIS" is not satisfactory, please write, sending sample (the cost of which will be defrayed) to

**S. FITTON & SON, Millers, MACCLESFIELD.**

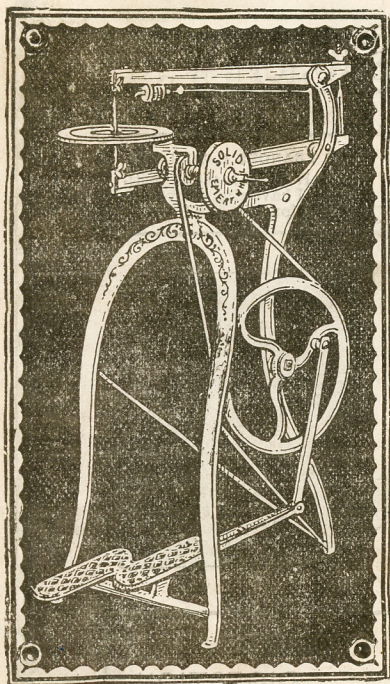
**BEWARE!** Bakers recommending another bread in place of "HOVIS" do **BEWARE!**  
so for their own profit.



# Special Offer to Clear Stock!

\* \* As the close of the season is at hand we wish as far as possible to clear our Stock of Treadle Fretwork Machines, and we therefore make a Special offer which will hold good until the end of March. With every Improved Roger Fretsaw we will give away a SIX-FOOT PARCEL OF ASSORTED PLANED FRETWOOD, and with every Companion, Goodell, and Imperial Machine we will give a TWELVE-FOOT PARCEL OF ASSORTED PLANED FRETWOOD. All these Machines are made in our own Workshops, and may be thoroughly depended upon to do good work.

## THE IMPROVED "ROGER" FRETSAW



The Improved "Roger" Fretsaw.

With Drill, Blower, Fly Wheel,  
Emery Wheel, etc.

These Machines are made entirely in our own workshops, and we strongly recommend them as being thoroughly serviceable and reliable. Although offered at an exceptionally low price, they are of the very best quality and finish. The arms have a clear swing of 18 inches, thus enabling a large piece of work to be cut, and the clamps are hung on pivots and will hold any size of saw. The Tilting Table may readily be adjusted to any angle for Inlaying. The Machines are made by experienced workmen, and all material used is of the best quality. Each one is provided with Drill Spindle, Dust Blower, Fly Wheel, and all accessories.

No. 1.—Price, complete .. .. 16/-  
(Or 15/3 with Three Hobbies' Coupons.)

No. 2.—Price, with Nickel-plated Tilting Table  
and Solid Emery Wheel in addition  
to Fly Wheel .. .. 19/-  
(Or 18/1 with Four Hobbies' Coupons.)

PACKING CASES FREE.

Other Machines made by us are—

The IMPERIAL FRETSAW, with upright Drilling Attachment	... £2 15 0
The COMPANION LATHE and FRETSAW, with Tools complete	... £1 18 0
The GOODELL LATHE and FRETSAW, with Tools complete	... £2 14 0

J. H. SKINNER & Co., (H Dept.,) DEREHAM, Norfolk.